**Mottmac Donald**

**South Sudan – Rumbek**

[**nicolathon96@gmail.com**](mailto:nicolathon96@gmail.com)

**Assignment module 3**

**Date: - 30/September/2019**

1. **Why is community based managed essential in management of water resource?**

* The only way the goal of sustainable development can be achieved especially in fragile Eco regions is through deepening democratic values and participation at the grassroots level.
* Institutional decentralization along with empowerment will ensure the survival base of rural economy and will promote growth
* The resources need to be organized to cultivate an empowering environment by promoting and supporting self-motivation, building skills, community knowledge and aligning social service systems.
* Water security requires household, community and national actions to protect and preserve water resources, to use water as a scarce resource and to ensure its equitable supply.
* To achieve maximum impact through water and sanitation interventions in rural community there is need for multilevel and intersectoral actions.

1. **With examples, discussed the different between community management and community participation.**

**Community management** or **common-pool resource management** is the management of a common resource or issue by a community through the collective action of volunteers and stakeholders. The resource managed can be either material or informational. Examples include the management of common grazing and water rights; fisheries and open-source software, In the case of physical resources, community management strategies are frequently employed to avoid the tragedy of the commons and to encourage sustainability

**Community participation: -** can be loosely defined as the involvement of people in the community in project to solve their own problems. People should not be forced to ‘ participate’ in the project which affect their live but should be given the opportunity where possible

**Examples of Community participation**

1. Needs assessment
2. Planning
3. Mobilizing
4. Training
5. Implementation
6. Monitoring and evaluation

1. **Give five maintenance problems and difficulties. How can you overcome maintenance difficulties in the water supply system management?**
2. Institutional
3. Technical
4. Cost effective maintenance
5. Installation of water system
6. A successful

**Overcome the above problems**

* There should be district level workshop to reduced high cost of transport.
* Establishing of the Village level operation and maintenance (VLOM).the institutional should be made modified on case by case basis , the ultimate decision should be made by community itself.

1. **What are water technologies available in your area? Explain Five**

1. **Personal Conservation Tech**

As much as I hate to admit it, technology can't do it all when it comes to solving the water crisis. Yes, finding alternative sources of clean drinking water is imperative in the next few years. But drinking water isn't entirely scarce just yet. And if we want to avoid the last-ditch effort mentality down the road, conserving the water we have now is more important than anything.

Fortunately, technology can help with this too! There are dozens of smart devices that can regulate how much water you're using [in the shower](http://ecooptions.homedepot.com/water-conservation/showerheads/), [on the toilet](https://tech.co/news/weirdest-gadgets-found-ces-2018-01), and anywhere else in your home with the click of a button. Making an effort to conserve water is the only way to make sure that the future will be without a major water crisis.

1. **Variable Electro Precipitator**

This process is one of the more effective and affordable methods of water treatment. One instance of the tech, developed and trademarked by [**F&T Water Solutions**](http://www.ftwatersolutions.com/electrocoagulation/variable-electro-precipitator), does a particularly good job of producing clean drinking water. Through electrocoagulation, the Variable Electro Precipitator can remove many of the contaminants in water that simple filtration cannot.

Unlike other methods of electrocoagulation, the Variable Electro Precipitator from F&T Water Solutions allows for a much more thorough process, guaranteeing the cleanliness of the water. Plus, the low cost and customizable settings allow it to be used in different climates and environments, further cementing it as a good move for countries in need.

1. **The Janicki Omni Processor**

There's no two ways about it; this machine produces clean drinking water from human feces. I know, I was grossed out too. But when you've got Bill Gates drinking from your machine and explaining how it works with adorable, animated words, it's hard to argue with the viability of the idea.

1. **Mini Water Filtration System**

Large scale efforts like Water Seer are an important step in guaranteeing a future without the threat of a water crisis. However, mass producing individual water filters that consistently work is another way we can be assured that clean drinking water will always be available. And this Mini Water Filtration System from Sawyer more than does the trick.

1. **WaterSeer**

While most of the planet is made up of water, the process of creating clean drinking water from salt water has proven expensive, time-consuming, and downright hard. However, **VICI Labs** has developed a machine that can pull moisture from the air, producing up to 11 gallons of clean drinking water per day in semi-arid conditions. Dubbed the device blows wind into an underground chamber, which eventually condenses and becomes water.

1. **How do you ensure cost effectiveness in supply water**
2. The cost of water

* Establishment and operation and maintenance costs
* Variables affecting cost.
* Technology choice
* Level of services
* Labor and material costs.
* Accessibility and quality of water source

1. Improving cost effectiveness

* System management
* Capacity building
* Ensuring community management and women participation
* Technological and logistical considerations
* Local production of materials and spare parts
* Tariff reduction